



Food and Beverage

SUPRApak M Series Filter Housings

SUPRApak™ Filtration
For Medium Batch Depth Filtration



SUPRApak M Series-WA Filter Housings Technical Information

SUPRApak M Series-WA filter housings are designed for use with SUPRApak M filter modules, to handle medium batch sizes in wine, distilled spirits, sweeteners, gelatin, enzymes, and other food and beverage applications.

Features	Benefits
Closed filtration system	<ul style="list-style-type: none"> Increased process safety and product quality; no drip losses; minimum operator exposure to process fluids
Compact design with high filtration area	<ul style="list-style-type: none"> High throughput filtration for medium batch production, resulting in low investment cost
Drainable, low hold-up volume assembly	<ul style="list-style-type: none"> Higher product yield; minimized cleaning costs
High quality internal surface finish, sanitary and crevice-free design	<ul style="list-style-type: none"> Enhanced cleanability
Modular construction available	<ul style="list-style-type: none"> Enables flexibility and matching of production volumes to equipment capacity
External tensioning device with preset torque limit	<ul style="list-style-type: none"> Provides secure operation without bypass
Simple, quick installation and servicing	<ul style="list-style-type: none"> Reduced labor and maintenance costs; reduced process downtime
Filter module lifting device available on request	<ul style="list-style-type: none"> Eases filter installation and removal
ATEX (94/9/EC) Group II, Category 2 by special order	<ul style="list-style-type: none"> Suitable for use in potentially explosive environments

Description

SUPRApak M filtration units provide a closed system approach to high capacity depth filtration, maximizing product protection and minimizing product losses. They are a cost-effective alternative to traditional sheet filtration and lenticular module filtration.

SUPRApak M Series-WA units hold from one to four SUPRApak M modules, representing up to approximately 11 m² (116.6 ft²) of filtration area in a very compact and low hold-up volume design. They are available either in single dome or modular design.

Specifications

Minimum / Maximum Design Pressure ^{1,2}	-1 to 8 barg (-14.5 to 116 psig)	
Minimum / Maximum Design Temperature ¹	-10 to 150 °C (14 to 302 °F)	
Materials of Construction	Wetted parts 1.4404 (AISI 316L stainless steel)	
Sealing Materials ³	EPDM elastomer	
Internal Surface Finish	≤ 0.8 micrometers Ra (≤ 32 Ra microinches), electropolished	
Internal Welds	Dressed and blended to provide uniform ripple- and crevice-free surface to ≤ 0.8 micrometers Ra (≤ 32 Ra microinches), electropolished	
Connections	Inlet/Outlet	DN40 (DIN 11851) 1.5 inch sanitary clamp coupling (ISO 2852)
	Filtrate Vent (optional)	DN6 (8 mm / 0.31 inch OD) hose tail
Filter Module Compatibility ⁴	SUPRApak M series modules	

¹ Maximum design pressure and temperature ratings are vessel ratings only. Safe operation will also depend on filter module and housing gasket use. EPDM assembly seals restrict continuous operating temperature to 130 °C (266 °F). For details on filter module temperature limitations, please refer to SUPRApak module literature.

² Design satisfies EC Pressure Equipment Directive (PED) 97/23/EC (Fluid Group 2, Category II, Module A1). Pressure rating is for liquid or gas. The PED category and fluid group classification indicates suitability of housing use on distilled spirits less than 70% by weight absolute alcohol. For such applications, the maximum allowable temperature must be below the flash point. For 70% by weight absolute alcohol the flashpoint is 21 °C (69.8 °F).

³ Seal materials meet requirements for food contact use as detailed in FDA 21 CFR Section 177.2600, and EC Regulation 1935/2004, including BfR XV and XXI. Please contact Pall for additional options.

⁴ Refer to Pall Food and Beverage SUPRApak module literature for additional guidelines on use.

SUPRApak M Series-WA Filter Housings

Technical Information

SUPRApak M Series-WA housings are supplied without accessories.

Nominal Dimensions in mm (inches) —
for specific dimensions, please contact Pall⁵

	M-100	M-200 M-210	M-300 M-311 M-320	M-400 M-421
A	1040 (40.9)	1299 (51.1)	1558 (61.3)	1818 (71.6)
B ⁶	410 (16.1)	410 (16.1)	410 (16.1)	410 (16.1)
C ⁶	282 (11.1)	282 (11.1)	282 (11.1)	282 (11.1)
D ⁶	128 (5.0)	128 (5.0)	128 (5.0)	128 (5.0)
E ⁷	359 (14.1)	359 (14.1)	359 (14.1)	359 (14.1)
F	324 (12.8)	324 (12.8)	324 (12.8)	324 (12.8)

⁵ Pall Corporation reserves the right to make dimensional modifications at any time, maintaining the same fit, form, and function. Please request a general arrangement drawing if exact dimensions are required.

⁶ Indicated dimension is for DIN 11851 connection. Dimensions for clamp coupling connection are B: 406 (16), C: 278 (10.9) and D: 124 (4.9).

⁷ Adjustable (leg height adjustment)

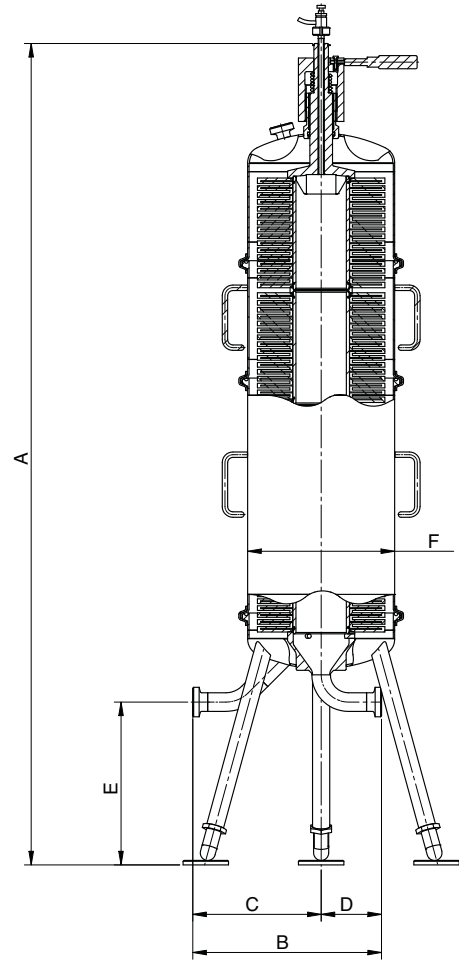


Figure 1: Dimensional information

Volume and Weight

	M-100	M-200	M-210	M-300	M-311	M-320	M-400	M-421
Volume L (US gal)	27.5 (7.3)	47.5 (12.5)	47.5 (12.5)	68 (18)	68 (18)	68 (18)	88.5 (23.4)	88.5 (23.4)
Weight kg (lb)	39.6 (87.3)	45.7 (100.8)	50.5 (111.4)	51.8 (114.2)	61.4 (135.4)	56.7 (125.0)	58 (127.9)	67.6 (149.1)

Standard Documentation⁸

- Certificate of Conformity to Quality Standards
- Final Inspection Certificate
- Installation/Operating Manual (IOM)

⁸ Additional documentation packages can be ordered. Please request PPD004BRONZ, PPD004SILVER, or PPD004GOLD.

SUPRApak Series

SUPRApak M Series-WA Filter Housings Ordering Information

This is a guide to the part numbering structure and possible options only.
For availability of specific options, please contact Pall.

Part Number: SPM WA
Table 1 Table 2 Table 3 Table 4

Example Part Number: **SPMWA400TW23LA**

Note: See bold reference codes in the tables.

Table 1

Code	Bowl Height and Configuration	Number of SUPRApak Modules
100	1-High Bowl	1
200	2-High Bowl	2
210	2-High Split Bowl	1 or 2
300	3-High Bowl	3
311	3-High Split Bowl	1, 2, or 3
320	3-High Split Bowl	1 or 3
400	4-High Bowl	4
421	4-High Split Bowl	1, 2, 3, or 4

Table 2

Code	Filtrate Vent Option
TW	No Vent
TV	With Vent (DN 6 Hose Tail)

Table 3

Code	Inlet/Outlet Connection Type
NW40	DN 40 DIN 11851
23L	1.5" Clamp Coupling

Table 4

Code	ATEX Documentation
A	ATEX (94/9/EC) Classification: Group II, Category 2, (Zones 1/21 and 2/22) Documentation
N	No ATEX Documentation

Optional Accessories

Part No.	Description	Details
25590-0226 ⁹	Hot Fluid Core	1.4404 (AISI 316L SS)
25590-0226-01 ⁹	Hot Fluid Core Extension Z1	1.4404 (AISI 316L SS)
25590-0226-02 ⁹	Hot Fluid Core Extension Z2	1.4404 (AISI 316L SS)
ACS1018AS	Blind Cap DN25	1.4404 (AISI 316L SS)
ACS1019AS	Blind Cap Clamp coupling 1 inch	1.4404 (AISI 316L SS)
ACS1036AA	Hook Spanner DN10-20	Tool
ACS1037AA	Hook Spanner DN25-100	Tool
ACS1067GS	Inlet/Outlet Adaptor (DN40 to 1 1/2 inch clamp coupling)	Adaptor for piping adaption from DN to ISO 2852 clamp coupling connection
20040118-12	1-2 High Lifting Device	Supplied with Spacer
20040118-34	3-4 High Lifting Device	Supplied with Spacer
ACS1116AA	Maintenance Tool Kit	Hook spanners, adjustable torque wrench, torque unit tools

⁹ For hot fluid filtration (>40 °C/ >104 °F) select Hot Fluid Core for the top module in the stack and add Hot Fluid Core Extension Z1 (1-high section) and/or Hot Fluid Core Extension Z2 (2-high section) as required. A 1-high housing will only require the Hot Fluid Core.



Figure 2: Stainless steel core for hot fluid filtration



Figure 3: Optional filtrate vent

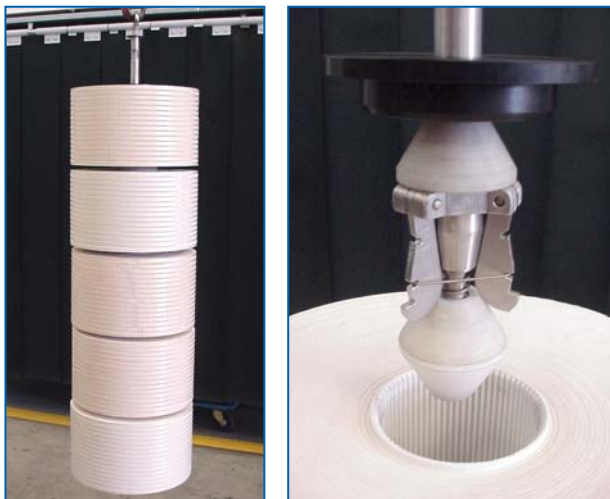


Figure 4: Hooks grab the bottom of the SUPRApak module stack for easy handling.

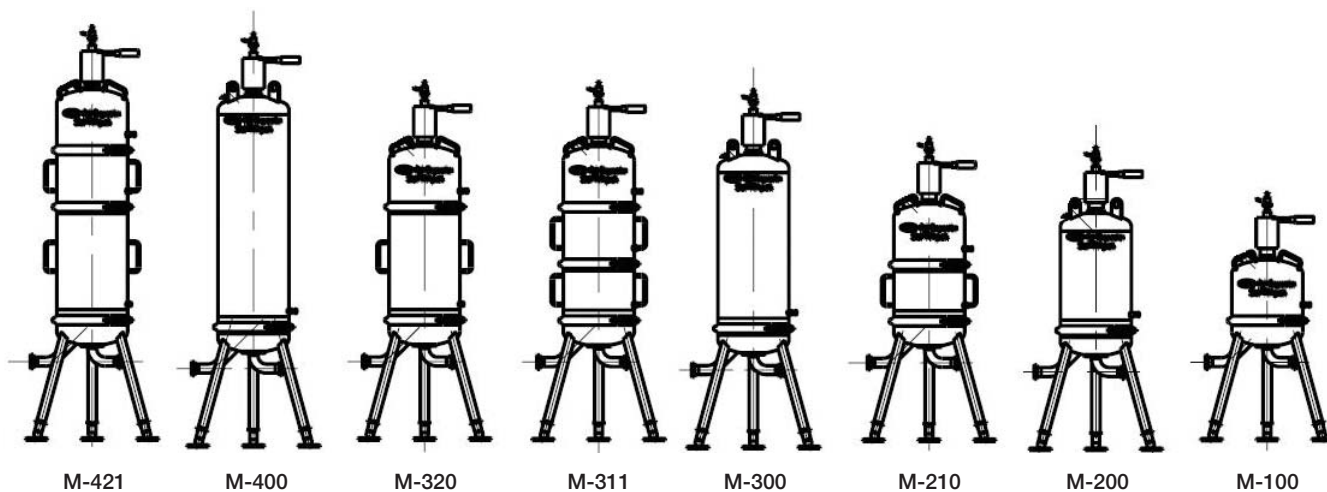


Figure 5: Single and split bowl designs offer flexibility.

Spare Parts

Part No.	Description	Details
ACS1004AM	Housing Z1 Extension Kit	Extension piece, housing clamp, o-ring
ACS1005AM	Housing Z2 Extension Kit	Extension piece, housing clamp, o-ring
ACS1006AM	Housing Closure Clamp	1.4301 (AISI 304 SS)
ACS1007EM	Housing O-Ring	EPDM elastomer
ACS1080EA	DN40 Seal	EPDM elastomer, for piping
ACS1052EA	DN 25 Seal	EPDM elastomer, for feed fluid vent piping
ACS1081EA	DN10 Seal	EPDM elastomer, for piping to filtrate vent
ACS1082EA	DN6 Seal Kit	EPDM elastomer kit, for filtrate vent valve
ACS1053AA	Torque Unit (unvented)	Torque unit without filtrate vent
ACS1040AA	Torque Unit (vented)	Torque unit with filtrate vent
ACS1106EX	Torque Unit Rod Seal	EPDM elastomer
ACS1042AA	Torque Wrench	Torque unit spare part
ACS1043AA	Torque Unit Guide Bush	Torque unit spare part
ACS1044AA	Torque Unit Clamp Nut	Torque unit spare part
KCA69045	Torque Unit Circlip	Torque unit spare part



Figure 6: The torque unit is an external tensioning device with preset torque limit, which provides reliable and secure operation without bypass.



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